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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,900	07/22/2003	Yu Jin Choi	CU-3308 RJS	2565
26530	7590	11/16/2005	EXAMINER	
LADAS & PARRY LLP 224 SOUTH MICHIGAN AVENUE SUITE 1600 CHICAGO, IL 60604			XIAO, KE	
			ART UNIT	PAPER NUMBER
			2675	

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/626,900		CHOI ET AL.	
	Examiner		Art Unit	
	Ke Xiao		2675	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the Claim 1 limitation reciting "driving the RGB dot columns in the same set in two dot column in inversion" must be shown or the feature(s) canceled from the claim(s). Specifically in order for two dot columns to be driving in inversion as claimed, the RGB elements of one dot column must be inverted from the next RGB dot column, however neither Figs. 3-4 show such a limitation. For example RGB column denoted by numerals 1, 2 and 3 show an inversion scheme of ++- which means that the next dot column denoted by the numerals 4, 5 and 6 must be --+ which is not the case. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

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application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim (US 2001/0015716).

Regarding **Claim 1**, Kim teaches a method for driving a liquid crystal panel in a dot inversion in a liquid crystal panel which has a plurality of sets (Kim, Fig. 6a and 10, Pg. 2 paragraphs [0001]), each set having a plurality of RGB dot columns, each of the RGB dot column having a plurality of dots which are arranged in a matrix (Kim, Fig. 6a and 10), the method comprising the steps of:

inverting the dots in sets of a plurality of RGB dot columns (Kim, Fig. 6a);

driving the RGB dot columns of one of the sets to have a polarity contrary to RGB dot columns of an adjacent set in inversion (Kim, Fig. 6a if each set is defined as three RGB columns the above limitation is inherently met); and

driving the RGB dot columns in the same set in two dot columns in inversion (Kim, Fig. 6a).

Regarding **Claim 3**, Kim further teaches that the RGB dot columns are driven in one horizontal line direction in inversion (Kim, Fig. 6a).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 2001/0015716) in view of Furuhashi (US 6,127,995).

Regarding **Claim 2**, Kim fails to teach that the set of RGB dot column include four RGB dot columns in addition to the limitation that adjacent sets must be driven with contrary polarity as per claim 1. Furuhashi teaches that an inversion scheme can be reverse at any time (Furuhashi, Fig. 17A). Further the applicant does not disclose any critical advantage to having the sets be exactly four RGB dot columns which means that the actual number of columns at which this reversal occurs is a design choice. It would have been obvious to one of ordinary skill in the art to reverse the polarity scheme at any point, including at every four dot columns, in the display as taught by Furuhashi in the display of Kim in order to further reduce voltage distortion in the signal lines (Furuhashi, Col. 36, lines 13-63).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 2001/0015716) in view of Moriyama (US 5,790,092).

Regarding **Claim 4**, Kim fails to teach that the RGB dot columns are driven in two horizontal line directions in inversions. Moriyama teaches driving a LCD in two horizontal line directions in inversion (Moriyama, Fig. 13A-B). It would have been obvious to add the feature of driving in two horizontal line inversion of Moriyama to the display of Kim in order to reduce power dissipation and vertical striping (Moriyama, Col. 7 lines 65-67, Col. 8 lines 1-2).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ke Xiao whose telephone number is (571)272-7776. The examiner can normally be reached on Monday through Friday from 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

November 1st, 2005 - kx -



SUMATI LEFKOWITZ
SUPERVISORY PATENT EXAMINER